Computed Tomography

Computed tomography (CT) is a sophisticated imaging technique that can show anatomy at different levels within the body. During CT imaging, the x-ray source rotates around the patient, and each rotation produces a single cross-sectional "slice," like the slices in a loaf of bread. CT allows physicians to see a horizontal piece of the body, just as if you were taking a slice of bread out of a loaf.

Computed tomography scans, also called CT scans, are used to diagnose many conditions. They may be used to examine the head to check for bleeding, tumors, blood clots or signs of stroke. In other parts of the body, CT may be used to tell whether a growth is solid or fluid-filled, determine an organ's size and shape and evaluate many different diseases.

Patient Preparation

Your personal physician or the radiology facility where you are scheduled to have your CT procedure will give you instructions describing how to prepare for your exam. You will be asked whether there is a chance that you might be pregnant. If you are pregnant, your health care provider will help you weigh the benefits of having a CT scan vs the risks. You may be asked about your medical history and your general health.

Before your examination, a CT technologist will explain the procedure to you and answer any questions you might have. A CT technologist, also known as a radiologic technologist, is a skilled medical professional who has received specialized education in CT imaging techniques.

During the Examination

Examination time can range from 10 minutes to more than an hour, depending upon the part of the body being examined and whether or not a contrast agent is used. For a head scan, you will be asked to remove eyeglasses, dentures, jewelry and barrettes or hairpins because metal can interfere with the imaging. For a body scan, you will be asked to remove all clothing and put on a hospital gown.

The CT technologist will position you on the scanning table. If you are undergoing a head scan, the technologist will place your head in a cradle to help prevent movement. You will be secured onto the table with a safety strap. The technologist will guide the scanning table into the CT unit, which is a machine with a large circular hole in the center. The CT technologist will not be in the room during the scan, but will be able to see you and you will be able to communicate through an intercom system.

As the x-ray tube rotates around you, you will hear a whirring sound. The exam table will move slightly to reposition you for each scan, but it moves so slowly that you might not even notice it. The technologist will tell you when each scan sequence is beginning and how long it will last. You should remain as still as possible during the sequence, and for certain scans you may be asked to hold your breath for a few seconds. Even the slightest movement can blur the image, so it's important to remain still.

When the exam is complete, your CT scans will be given to a radiologist, a physician who specializes in the diagnostic interpretation of medical images.

Postexamination Information

After your images have been reviewed, your personal physician will receive a report of the findings. Your physician then will advise you of the results and discuss what further procedures, if any, are needed.